Wireless/Internet
SDIO WLAN card

SDIO WLAN Card
User's Manual
ver. 1.30

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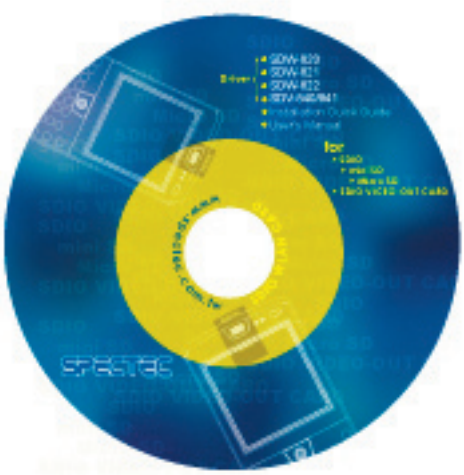
Thank you for choosing SDIO WLAN card, it is the smallest SDIO Wireless/Internet WLAN card available on the market today. It is easy to install and use, and provides unlimited online usage and connectivity wherever you are.

Inside Package

SDW-820 SDW-821 SDW-822 SDW-823

Driver & User Guide CD



System Requirements & Installation Description

1. This SPECTEC SDIO Wi-Fi card can only be used in Pocket PCs with Windows Mobile 2003 or newer versions of this operation system.

2. This SPECTEC SDIO Wi-Fi card can only be used on PDAs with the SDIO drive.

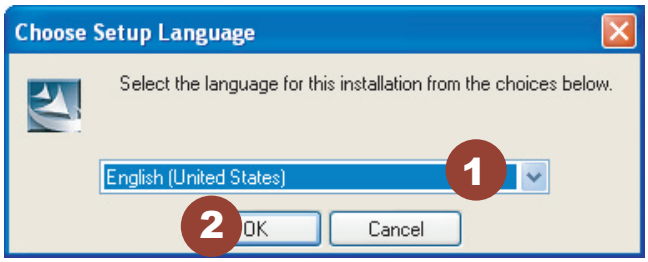
Installation Procedure

< First, connect PDA to your computer with a USB wire.

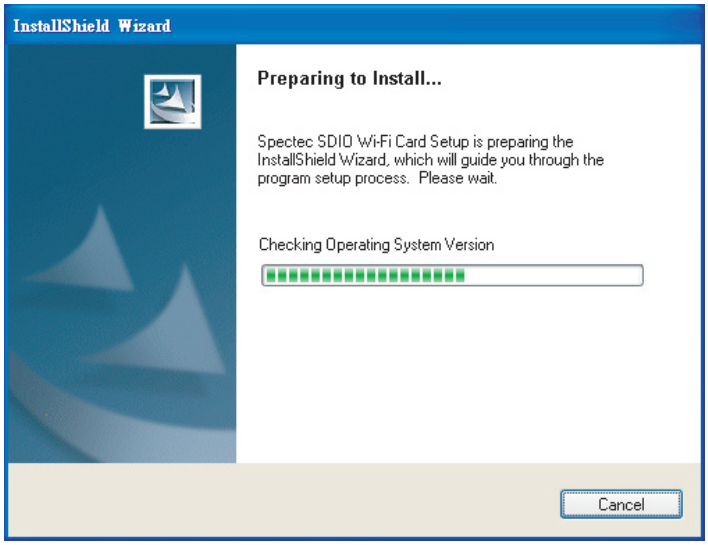
< Main menu window will pop-up when you insert the "Spectec SDIO Series" Installation CD by autorun:

<click the SDW-820/ SDW-822 item.

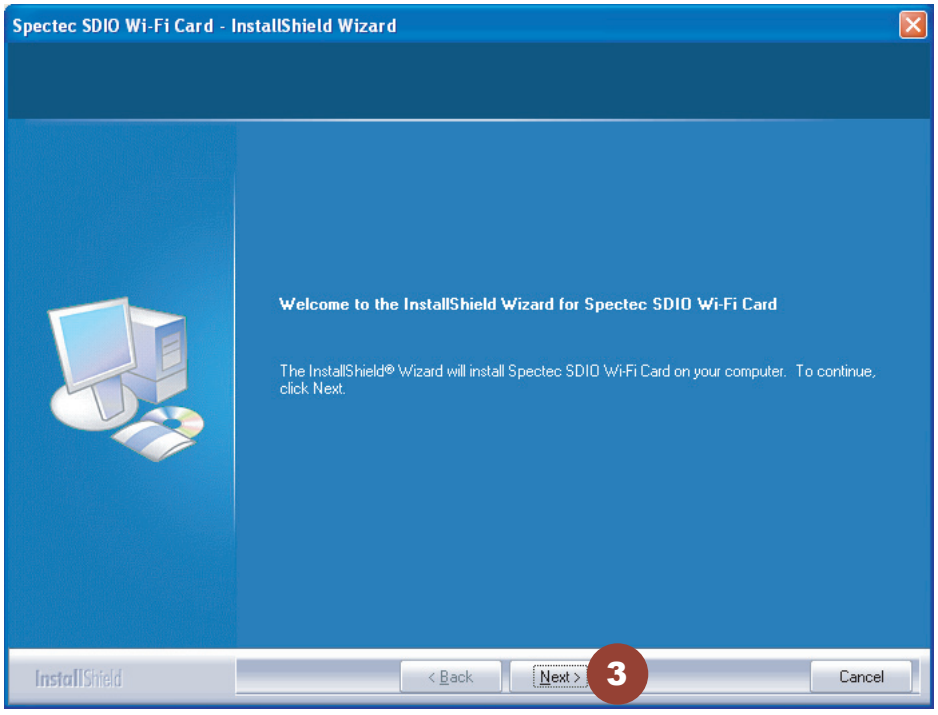
< Choose the desired **Language**, then click OK.



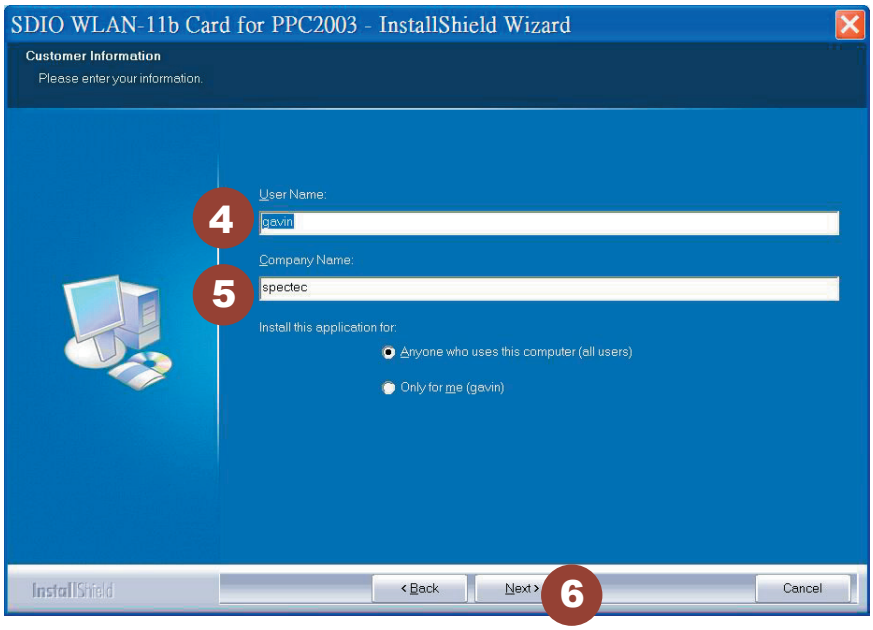
< The Installation menu will automatically appear on the screen.


InstallShield Wizard
Preparing to Install...
Spectec SDIO Wi-Fi Card Setup is preparing the InstallShield Wizard, which will guide you through the program setup process. Please wait.
Checking Operating System Version
Cancel

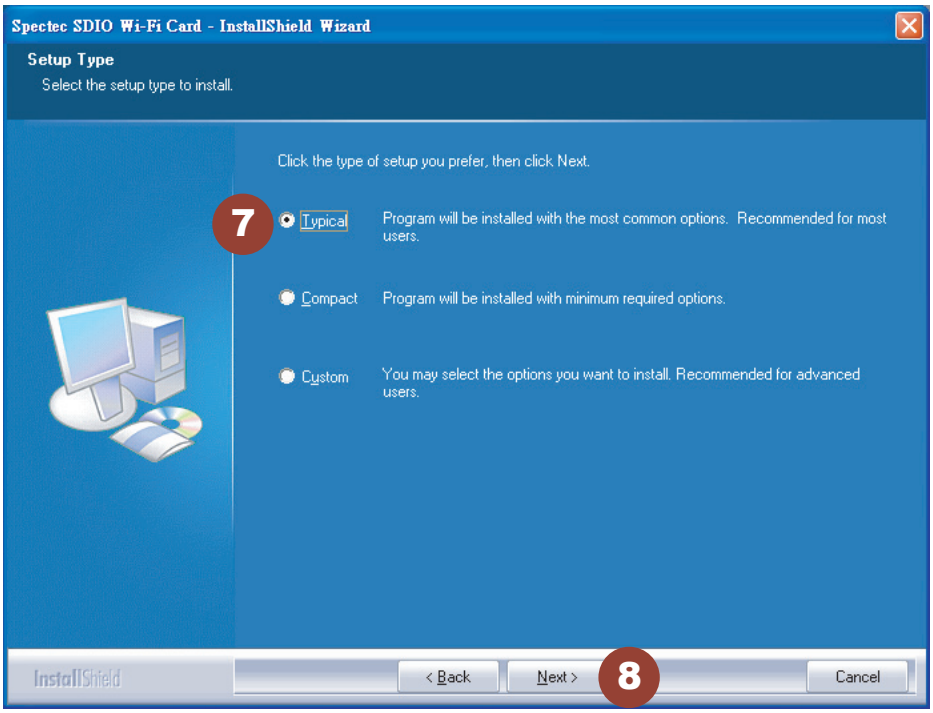
< Click Next


Spectec SDIO Wi-Fi Card - InstallShield Wizard
Welcome to the InstallShield Wizard for Spectec SDIO Wi-Fi Card
The InstallShield® Wizard will install Spectec SDIO Wi-Fi Card on your computer. To continue, click Next.
InstallShield
< Back
Next >
3
Cancel

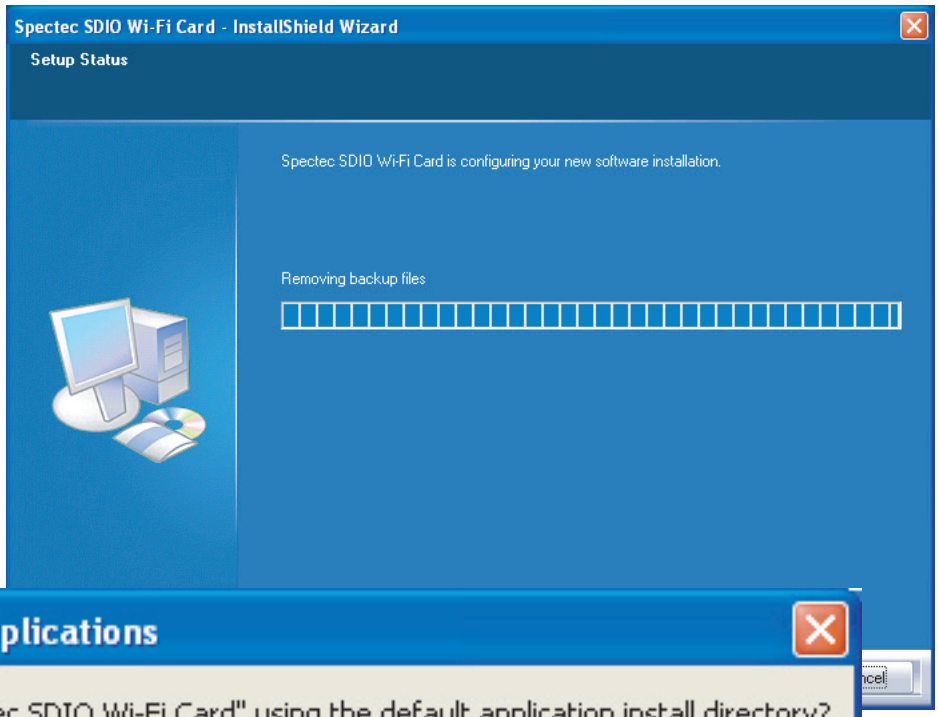
< Enter user information, then click Next.



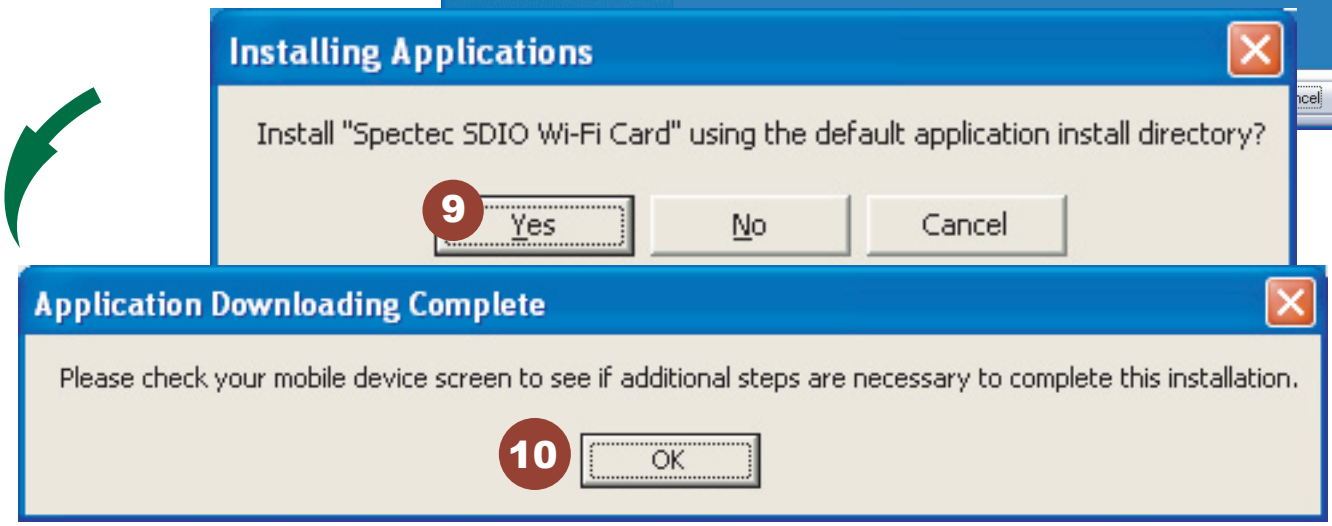
< Chose **Setup type**, then click Next

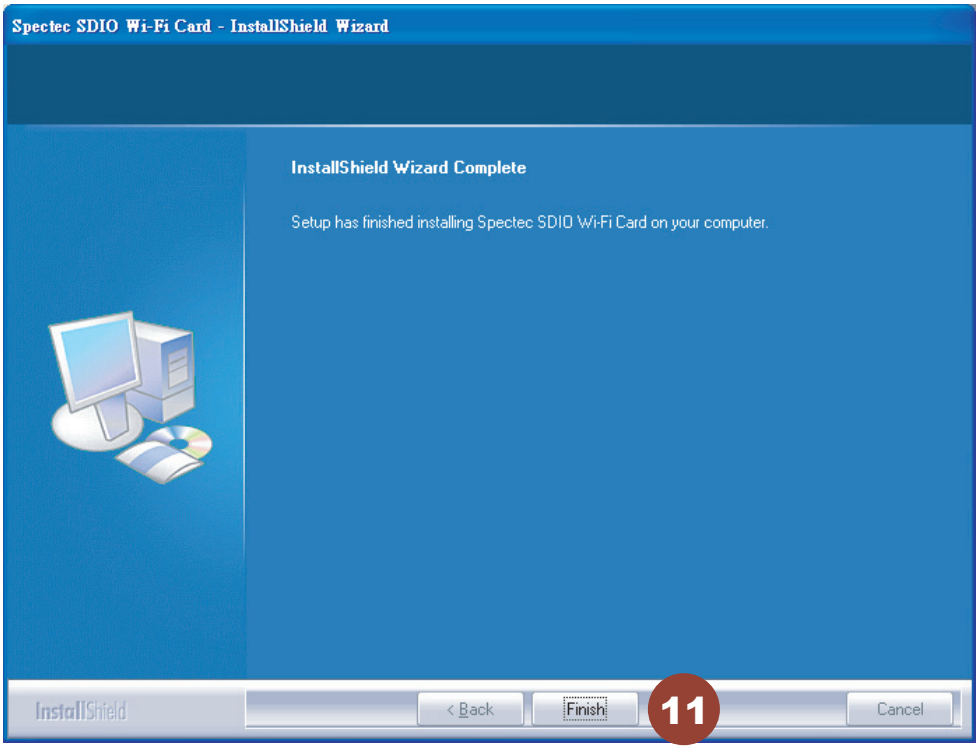

Spectec SDIO Wi-Fi Card - InstallShield Wizard
Setup Type
Select the setup type to install.
Click the type of setup you prefer, then click Next.
Typical
Program will be installed with the most common options. Recommended for most users.
Compact
Program will be installed with minimum required options.
Custom
You may select the options you want to install. Recommended for advanced users.
InstallShield
< Back
Next >
Cancel
7
8

< The driver will be installed automatically.


Spectec SDIO Wi-Fi Card - InstallShield Wizard
Setup Status
Spectec SDIO Wi-Fi Card is configuring your new software installation.
Removing backup files

< Click **Yes** to proceed with installation. Click OK to finish installation.





< Click **Finish** to complete the driver installation process.

Inserting the SDIO WLAN Card into a PDA

< Check the direction of the card. Insert the card with the label side facing the front of the PDA until it clicks.

Different PDAs may have different drives. Make sure the direction is correct to avoid damaging the PDA's SD drive.

* Please do not keep inserting & removing the card, different PDAs needs an interval of 5 to 7 seconds to process.

How to take a SDIO WLAN card out of a PDA

< When removing the SDIO WLAN card from a PDA, simply press down on the card until it clicks. The card will rise up for easy removal. DO NOT PULL by force, or the slot may be damaged.

< This card is designed to be locked into the slot. Forcefully pulling the card out will not only damage this auto pop-out function, but also the slot and the wireless card.

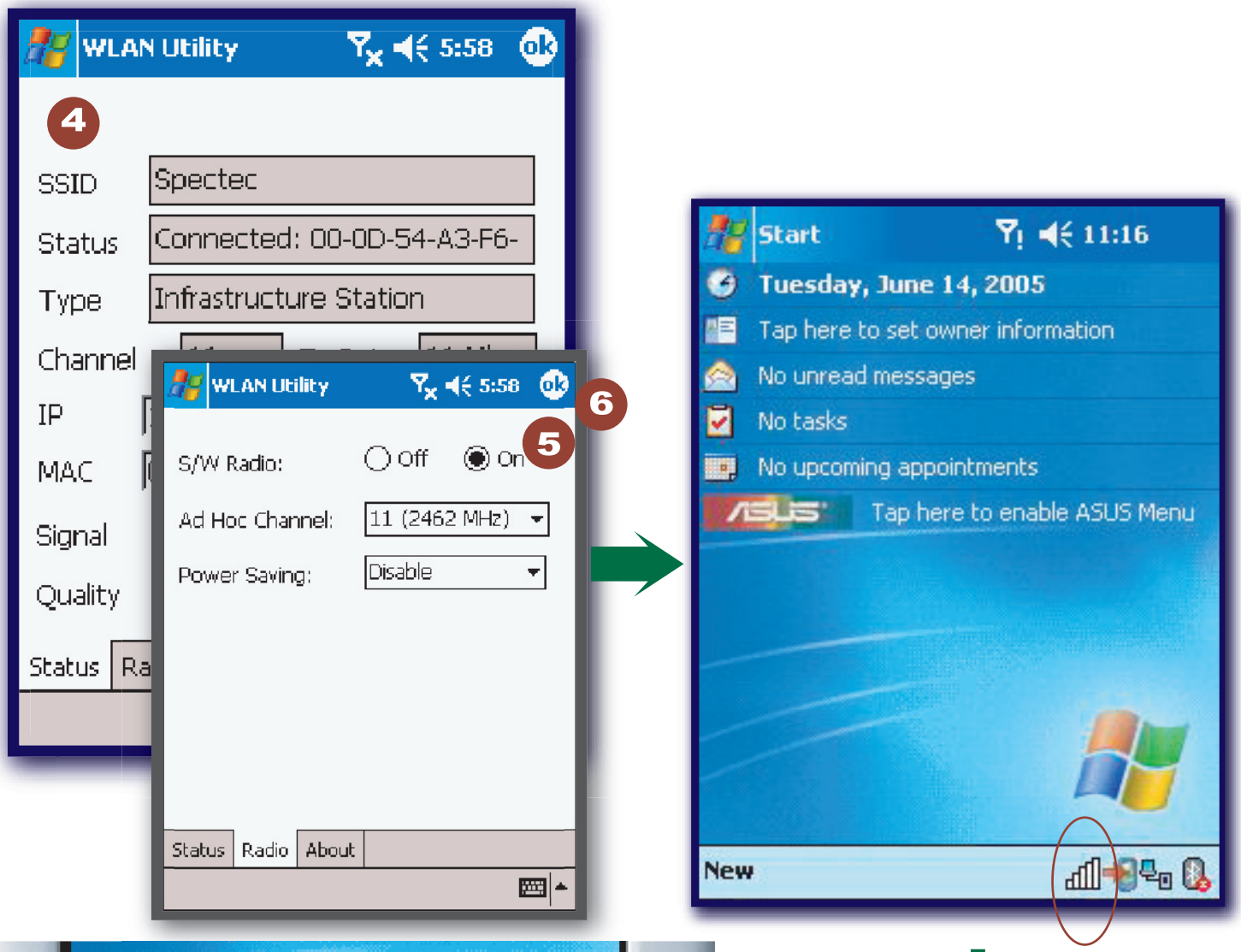
How to check Connect Status

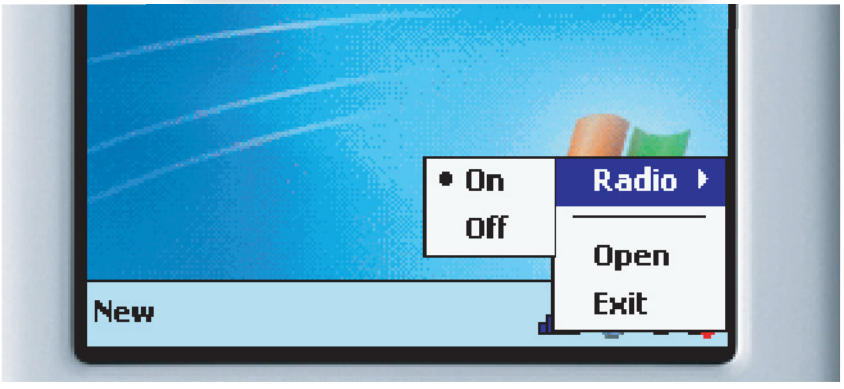
< After install the software, start path as **Start\Programs**.

< After inserting the card into the PDA, click **Start**. Click **Programs** on the pull-down menu, then select WLAN .(Only built-in 11b card for PCC2003)

< Click WLAN to open the **WLAN Utility** window.

In "Radio" page of WLAN Utility, you may check **S/W Radio Off/on** for **Enable/ Disable** Wi-Fi card, or you can also find a shortcut icon at the lower right hand corner of the screen.

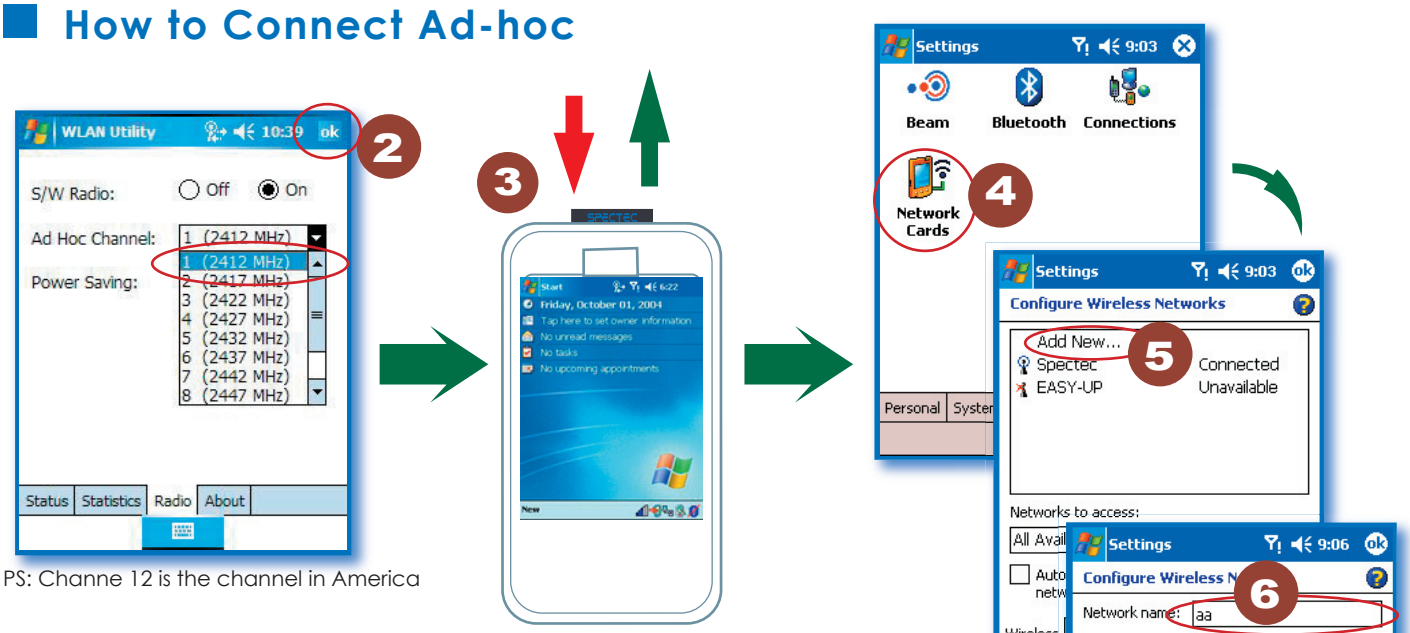




< Click , shortcut icon to switch **/off** Wi-Fi radio

*** Note : The WLAN Utility can be only compatibility on PPC 2003(CE4.X) and few windows mobile 5.0(CE5.0) OS**

How to Connect Ad-hoc



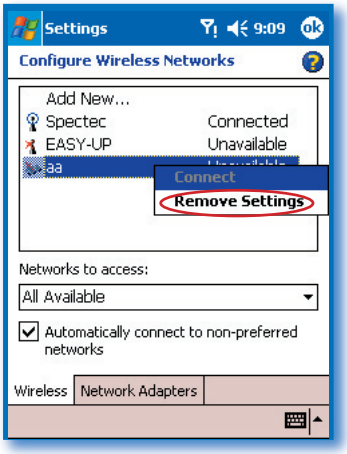
PS: Channe 12 is the channel in America

1. In **WLAN Utility**, select **Ad-Hoc Channel** (must be channel**1**).
2. Click **OK** to exit **WLAN Utility**.
3. Remove the card from PDA, then re-insert the card.
4. Go to PDA system: **Settings\Connections\ Network Cards.**
5. Click **Add New.**
6. Type in the name (ex. aa).
7. Check the "This is a device-to-device (ad-hoc) connection" box.
8. Click **OK.** The input name (ex. aa) will be added to the **Network Address.**

**Ad-hoc channel is a "Point-to-point" network segment. It provides you with a temporary LAN environment.*

How to Remove Settings

In **Settings,** select the network name that you would like to remove. Wait 2 seconds for the '**Remove Settings**' pop-up window to appear.

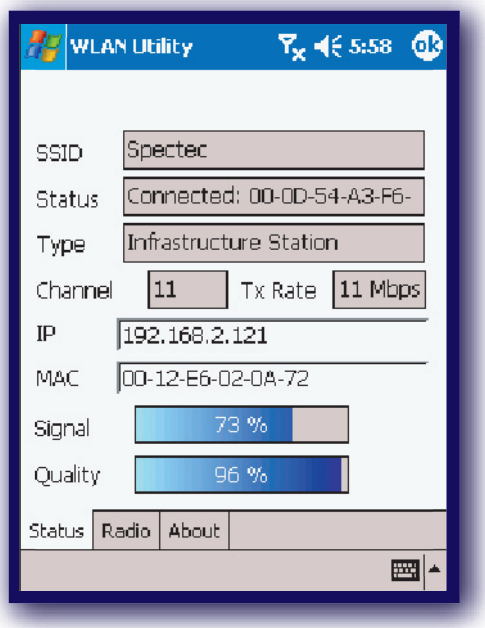


Wireless/Internet Speed Dial

< Click

1. Make quick changes to the wireless card **On/Off** function.
2. **"Open"** to go directly to WLAN Utility screen for more information.

WLAN Utility has 3 features **(Status/Radio/About):**



***Status** - Shows SSID, IP Address, Mac Address, Signal Strength, and Signal Quality information.

***Radio** - **Enable/Disable** Wi-Fi card and Power Saving mode selections.

< Click **On** enables wireless network functions.

< Click **Off** disables wireless network functions.

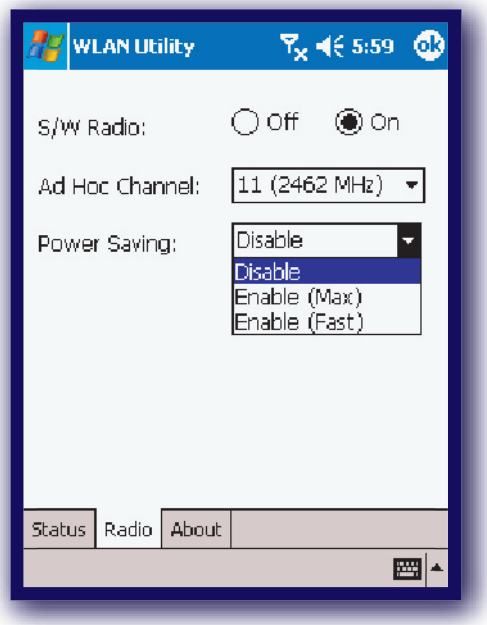
< **Ad Hoc Channel:** Select ad hoc channels (1~11).

Power Saving:

< ***Disable:*** No power saving.

< ***Enable (Max):*** Maximum power saving. May affect download speed.

< ***Enable (Fast):*** No affect on the download speed (recommend).



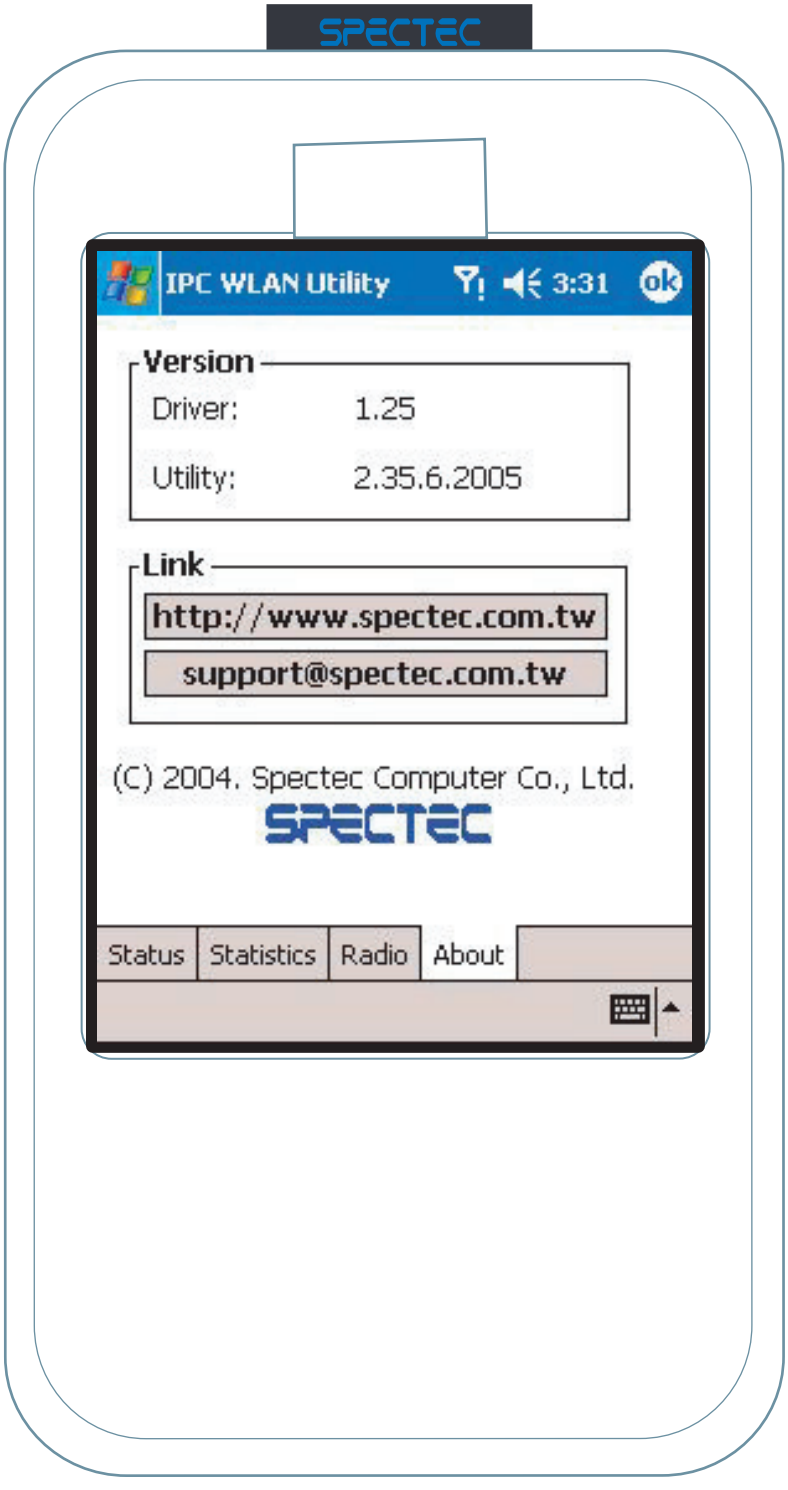
***About --** Shows SPECTEC connections info.

< ***Driver:*** Current version of driver you installed.

< ***Utility:*** Current version of utility you installed.

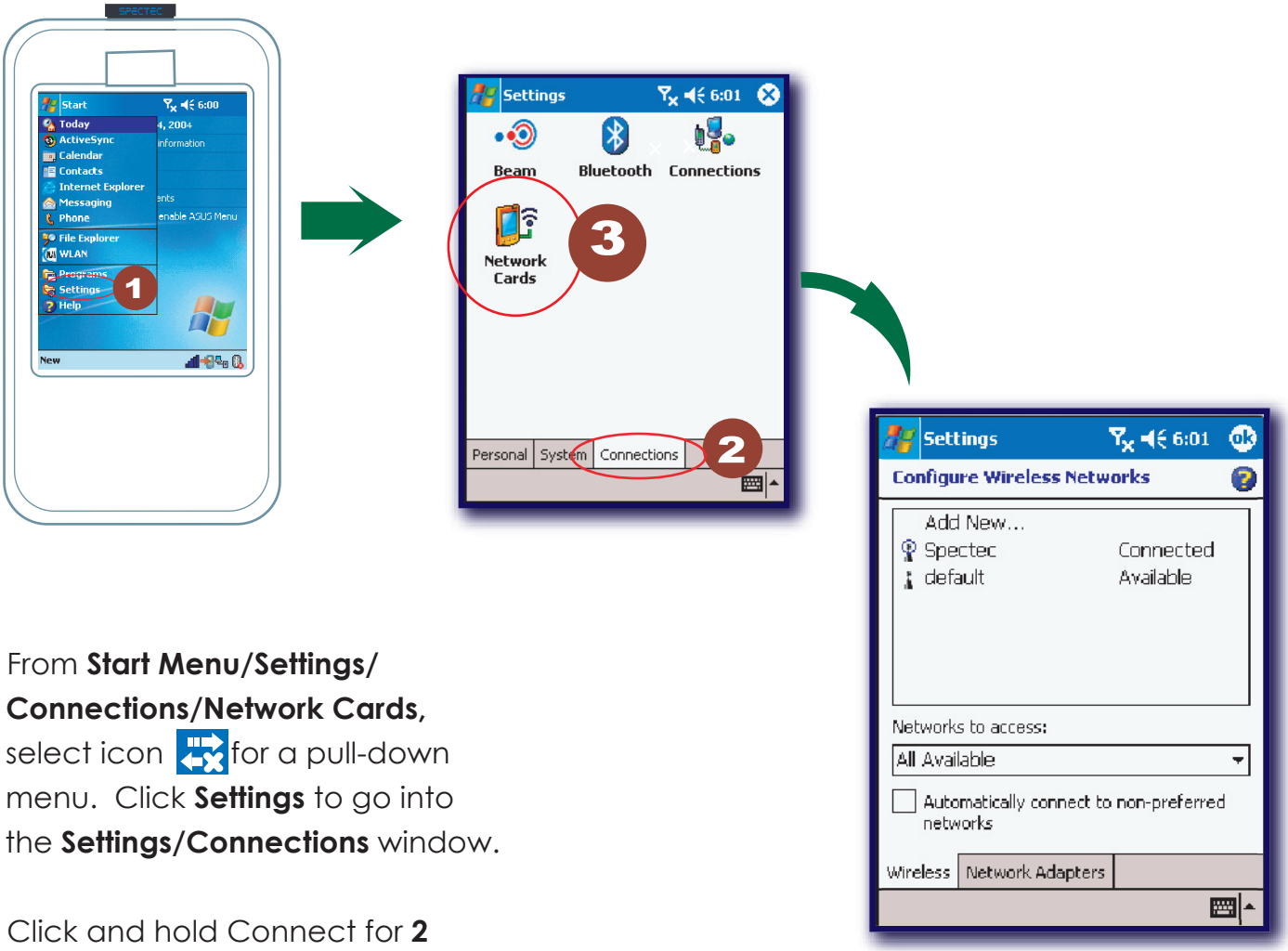
< ***SPECTEC Web Site:***
http//:www.spectec.com.tw

< ***Technical Support:***
support@spectec.com.tw



To Select Networks Manually

After inserting SDIO WLAN card into PDA, if the icon does not appear on the upper window, the network may be connected manually.



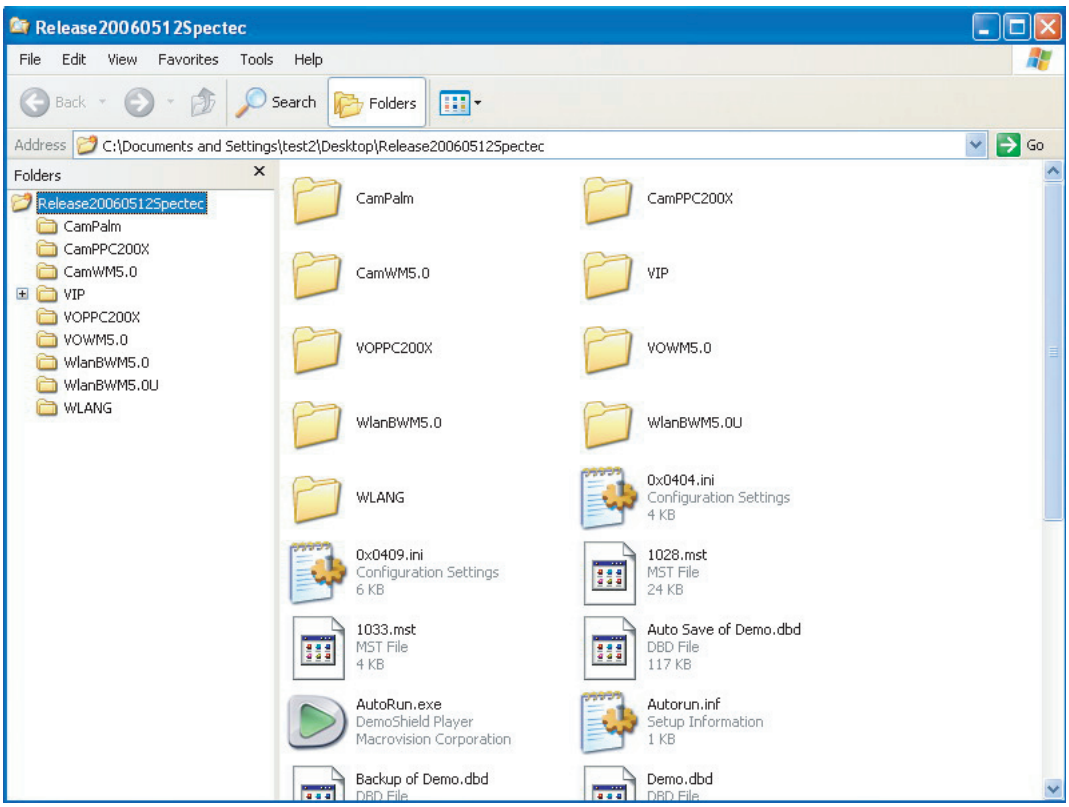
< From **Start Menu/Settings/ Connections/Network Cards,** select icon for a pull-down menu. Click **Settings** to go into the **Settings/Connections** window.

< Click and hold Connect for **2** seconds, then click OK. All available network selections will appear.

CD info

< Click **Browse Contents** button to review all the files on CD

< Review all the files list on CD



How to Install Software with CAB File

1. **Driver and Utility (cab file)**
   Take out the WLAN card, click **"reset"**, connect computer through **Microsoft Active Sync**, download Driver cab file copy to any list of PDA, **double-click it** to finish install.

2. **User Manul download (Adobe PDF)**
   Please go to the addreess - http://www.adobe.com/products/acrobat/readstep2.html to download free Adobe Reader software

AP Compatibility List

Test condition and test environment

DUT: WLAN-11b

Vendor	Accton		ASUS				Atheros		BENQ		BELKIN		Buffalo			
Model	IG 2004W		WL-500b		WL-530g		AR5002AP		AWL700		F5D7230		AG54		WLA-L11G-L	
Rate	TX	RX	TX	RX	TX	RX	TX	RX	TX	RX	TX	RX	TX	RX	TX	RX
Auto Rate	1.55	2.62	1.71	2.88	1.49	2.43	1.61	2.84	1.67	2.39	1.59	2.43	1.61	2.82	1.66	2.90

Vendor	Cisco		Corega		DLink				Gemtek		Interepoch		Intersil		Linksys	
Model	AP1220		WLBARGP		DLink624		DLink724		WX-1500 series		IWE-1100A		ISL39300		WRK 54G	
Rate	TX	RX	TX	RX	TX	RX	TX	RX	TX	RX	TX	RX	TX	RX	TX	RX
Auto Rate	1.67	2.87	1.67	2.67	1.63	2.80	1.63	2.80	1.61	2.44	1.60	2.44	1.70	2.91	1.64	2.78

Vendor	Maxim		OriNoCo		PCI		Proxim		RAYTAC		SMC		3Com			
Model	WAP-G54A		AP-200		BLW-04gm		AP 600		DS2400		WBR14-G		XJACK		AP2000	
Rate	TX	RX	TX	RX	TX	RX	TX	RX	TX	RX	TX	RX	TX	RX	TX	RX
Auto Rate	1.63	2.89	1.56	2.73	1.63	2.80	1.63	2.79	1.64	2.67	1.67	2.43	1.60	2.78	1.68	2.78

Vendor	Synnex		MSI		AboCom		SENAO		ZERO ONE	
Model	LM-WCAS3040		RG54G2		WB104k		NL-2511SR+		AF411W	
Rate	TX	RX	TX	RX	TX	RX	TX	RX	TX	RX
Auto Rate	1.59	2.77	1.60	2.65	1.69	2.87	1.66	2.49	1.54	2.69

*** Measurements: mbps RX: Receiver TX: Sender**

*** Test Environment : Night without Raining° C ~ 32° C**

Distance from 5m ~ 30m

*** Collect data tool : Windows CE Platform Builder 5.0 performance monitor tool**

Frequently Ask Question

Q: After installing the CD-ROM, how many files will be installed onto the device?

A: After installation, some dll files are installed in **My Device\Windows,** and the **WLAN Utility** in **Programs.** However, these files are quite small, and total about 300 KB.

Q: How do I temporarily stop the wireless/internet connection?

A: You can click on the **"Off"** button in **WLAN Utility.** When all 5 blue bars are white, Wi-Fi is disabled. Selecting the **"On"** setting will reconnect you to the internet.

Q: What do the 5 bars from "WLAN Utility" indicate?

A: These 5 bars show the strength of the signals. More blue bars indicate stronger signals, while all white bars indicate no connection.

Q: Why can't I browse the web page even though the card has an IP address?

A: When connecting to the internet with a weak signal, CRC may have too many errors to allow viewing a web page. Please try your connection around strong signals.

Q: Can your Wi-Fi card be used for internet phone such as Skype?

A: Yes, our Wi-Fi card can be used with Skype software. We suggest to use in an empty field, and with wired headphones for better results.

Warranty

hank you for your purchase of our product. For Spectec's quality service, please read the following for your rights.

1. Warranty period is 1 year, starting from the date of original purchase. Please provide original purchase receipt with purchase date when inquiring for service.

2. This product has passed all quality control and AP tests for quality assurance. We suggest to use it with the AP list, and other accepted industry-standard equipments.

3. If the damage is resulted from product design, defects in material or poor workmanship, we will repair or exchange your product.

4. This warranty does not cover failures resulted from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, improper maintenance, power line surge, lightning damage, modification, serviced by anyone other than an Authorized Servicer, or other natural causes.

5. This warranty does not cover failures caused by products not supplied by the warrantor.

License Aggreement

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ENTIRE AGREEMENT: This License Agreement sets forth the entire understanding and agreement between you and SPECTEC and may be amended only in a writing signed by both parties.

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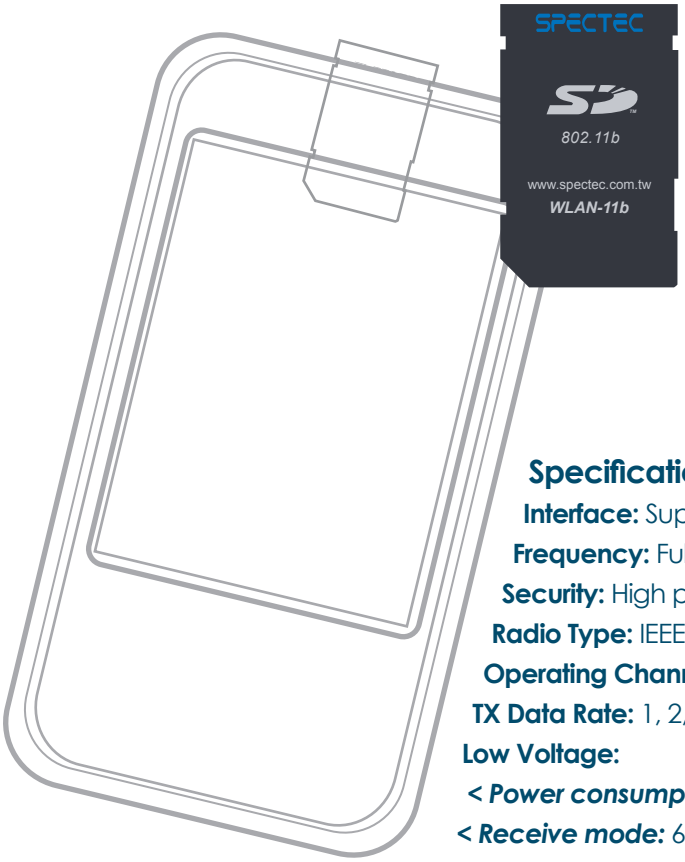

SDW-820 SDIO WLAN-11b Card

Specifications

Interface: Support SDIO 1.0
Frequency: Fully integrated, 2.4 GHz band direct conversion transceiver
Security: High performance engine for WEP, WPA, TKIP and AES support
Radio Type: IEEE 802.11b support DSSS system
Operating Channels: 1~14 channels
TX Data Rate: 1, 2, 5.5, 11 Mbps Data Rate
Low Voltage:
< *Power consumption:* Operating Voltage: 3.0 V ~ 3.5 V
< *Receive mode:* 60 mA
< *Transmit mode:* 116 mA for 15 dBm Pout
< *Avg. Operation:* 188 mA
Support:
< STA (Ad-hoc and infrastructure) and AP mode
< DCF/PCF
OS Support: PPC 2003, Windows Mobile 2003 Second Edition for PPC & Smartphone, Mobile 5.0 for PPC & Smartphone, WinCE 4.x
Operating Range: ***Outdoor:*** 200 ~ 400 m, ***Indoor:*** 100 m
Certification: FCC, CE, Wi-Fi Certified
Dimension: 28 mm x 20 mm x 1.4 mm
Weight: Aprox. 1.5 g
*All specifications are subject to change without prior notice.

SDW-821 SDIO WLAN-11b/g Card

Specifications

Network Standard Support: IEEE 802.11b/g

Network Architectures: Infrastructure, Ad-Hoc

Data Rates:

< 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps

< 802.11b: 1, 2, 5.5, 11 Mbps

Modulation Techniques: BPSK, QPSK, 16QAM, 64QAM, CCK, OFDM, DSSS

Receiver Sensitivity:

< 802.11g: 73~91 dBm

< 802.11b: 89~97 dBm

Power Consumption: Avg. Operating 138mA

Supply Voltage: I/O: 3.0 - 3.6 Vdc

Operating Temperature: 0.C to +70.C; <95% humidity

Host Interface: SDIO

OS Support: Microsoft Windows CE 4.2, 5.0 ,Windows Mobile 2003 or above (for PPC & Smartphone) / Linux V2.4.18 on samsung 2410/2440

Dimension: 38.3 x 24 x 2.1 mm

*All specifications are subject to change without prior notice

SDW-822 SDIO WLAN-11b Card

Specifications

Interface: Support SDIO 1.0

Frequency: Fully integrated, 2.4 GHz band direct conversion transceiver

Security: High performance engine for WEP, WPA, TKIP and AES support

Radio Type: IEEE 802.11b support DSSS system

Operating Channels: 1~14 channels

TX Data Rate: 1, 2, 5.5, 11 Mbps Data Rate

Power consumption:

< Receive mode: 60 mA

< Transmit mode: 116 mA for 15 dBm Pout

< Avg. Operation: 188 mA

Support:

< STA (Ad-hoc and infrastructure) and AP mode

< DCF/PCF

OS Support: Microsoft Windows CE 4.2, 5.0 ,Windows Mobile 2003 or above (for PPC & Smartphone)

Operating Voltage: 3.0 V ~ 3.5 V

Operating Range: Outdoor: 200 ~ 400 m, Indoor: 100 m

Certification: FCC, CE, Wi-Fi Certified

Dimension: 28 mm x 20 mm x 1.4 mm

Weight: Aprox. 1.5 g

*All specifications are subject to change without prior notice.

SDW-823 SDIO WLAN-11b/g Card

Specifications

Network Standard Support: IEEE 802.11b/g

Network Architectures: Infrastructure, Ad-Hoc

Data Rates:

< 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps

< 802.11b: 1, 2, 5.5, 11 Mbps

Modulation Techniques: BPSK, QPSK, 16QAM, 64QAM, CCK, OFDM, DSSS

Receiver Sensitivity:

< 802.11g: 73~91 dBm

< 802.11b: 89~97 dBm

Power Consumption: Avg. Operating 138mA

Supply Voltage: I/O: 3.0 - 3.6 Vdc

Operating Temperature: 0.C to +70.C; <95% humidity

Host Interface: SDIO

OS Support: Microsoft Windows CE 4.2, 5.0 ,Windows Mobile 2003 or above (for PPC & Smartphone) / Linux V2.4.18 on samsung 2410/2440

Dimension: 22 x 11 x 1 mm

*All specifications are subject to change without prior notice

NOTE: The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

To comply with the FCC RF exposure compliance requirements, this device and its antenna must not to be co-located or operating to conjunction with any other antenna or transmitter.

FCC INFORMATION
The Federal Communication Commission Radio Frequency Interference Statement includes the following paragraph:

The equipment has been tested and found to comply with the limits for a Class B Digital Device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communication. However, there is no grantee that interference will not occur in a particular installation. If this equipment dose cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

--Reorient or relocate the receiving antenna.
--Increase the separation between the equipment and receiver.
--Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
--Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undersired operation.

Thank You for Purchasing Spectec's Products